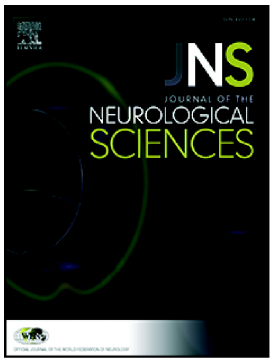

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Factors influencing interest in the brain-related sciences in a UK cohort

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Dear Editor,

We were interested to read the recent article published in the Journal of Neurological Sciences by Kamour and colleagues (Kamour et al., 2016) about factors, which influence medical student and house officer interest in the brain related specialities. We were interested to see if the responses were similar in a group of our peers at a London based university in the UK. We felt this was particularly important as there is also a shortage of trainees in the brain related specialities in the UK and so it is important to address why this is. We also hope that by exploring this issue we would be able to begin to inform the redesigning of courses to increase student interest in neurology, neurosurgery and psychiatry.

We obtained research ethical approval to survey our peers and obtained responses from 57 students. 57.9% (n=33) were interested in the brain related sciences and of those, 39.4% expressed an interest in more than one speciality. 54.5% of those with an interest in the brain related sciences were interested in psychiatry whilst 48.5% were interested in neurology and 36.4% in neurosurgery. We had a higher rate of interest amongst our participants than Kamour et al., (34.1%) but they included house officers as well as medical students in their survey.

We asked students who were not interested in the brain related sciences to give a reason why. The most common reason was that they were 'difficult' (52.6%) whilst the second most common reason was that they "preferred another speciality" (26.3%). Other reasons included 'negative experience on placement', "training post is too difficult, intensive and competitive" and "psychiatry is too overwhelming and frightening emotionally". This is interesting as "neurophobia" is a commonly reported phenomenon among medical students (Pakpoor et a., 2014). One participant said they were not familiar with what the training programme entails and another said they "changed their mind" after completing an intercalated degree (between the pre-clinical and clinical phases of medical training) in psychology. This was interesting because Kamour and colleagues identify previous neuroscience experience as an important factor for those interested in the brain related specialities.

In our cohort, 63.6% of those interested in brain related sciences had some form of additional neuroscience exposure in addition to the teaching in the basic curriculum. This ranged from student selected placements (one-day per week placement lasting approximately 10 weeks) to doctoral degrees in related subjects. Only 12.5% of those not interested in the brain related sciences had additional neuroscience exposure.

We also asked respondents to rate the teaching they received as 'good', 'neutral' or 'poor', both in a pre-clinical and clinical setting. There was a small difference in perception of the pre-clinical teaching between those interested in the brain related specialities and those not with 39.4% of those interested rating the teaching as 'good' and 50% of those not interested also rating it as 'good'. The opposite pattern was seen for the clinical teaching with 53.3% of those not interested in the brain related sciences (who had completed the clinical placement) rating it as 'good' compared to 72.2% of those interested in the brain related sciences rating it as 'good'. We felt this

suggested that the perceived quality of the pre-clinical teaching did little to influence students' interest in the brain related sciences but clinical teaching was more important.

We also looked at some demographic and socioecomonic factors as Kamour and colleagues did, including the difference between males and females. 48.5% of female respondents were interested in the brain related sciences compared to 72.7% of male respondents. This was different to the findings reported by Kamour and colleagues who found similar rates of interest between male and female students (33.1% of male vs. 35.6% of female respondents).

Kamour and colleagues identified parent's possessing a professional degree, a personal income of over $50,000 and a high debt level as factors likely to decrease interest in the brain related sciences. In our cohort we also found that in those interested in the brain related sciences the rate of parent's possessing a professional degree was lower than in those not interested (22.6%% vs. 35%). When we looked at parental or household income we found the rate of having household income over £50,000 was similar between the two groups (59.4% in those interested vs. 50% in those not-interested). Finally we looked at the current debt level. 66.7% of those interested in the brain related sciences had a level of debt over £50,000 compared to 60.9% of those not interested. This was different to what was reported by Kamour and colleagues who suggested higher current debt was associated with a decreased interest in the brain related specialities.

We compared interest in the brain related sciences between student in their first clinical year and those in the 3rd clinical year (final year of medical school) and saw a decline from 71% to 30%. This decline in interest during time at medical school was also reported by Kamour and colleagues. The decline in our cohort was greater than 40% and we therefore believe it is an important factor which requires further investigation. It suggests that experiences at medical school are an important time for capturing the interest of students and drawing them towards the brain related specialities so the impact it has needs to be more fully understood.

We hope this highlights some of the similarities and differences between student interest in the brain related specialities in an English cohort compared to an American one. The findings suggest that educational experience influences student interest in the brain related sciences and a change in the approach to neuroscience teaching may be needed to remove the barrier of 'neurophobia' and make the specialities more accessible to training students. Our survey only included a small number of respondents so it would be important to assess how these factors influence interest in a larger population and additionally whether the factors highlighted are found across other medical schools in different regions across the UK.

Yours Sincerely,

Charlotte Burford, Emma Alexander, William Sloper and Marian Huett

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